

## Type specimens of the Imperial Woodpecker *Campephilus imperialis* (Gould, 1832)

by Robert P. Prŷs-Jones

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**SUMMARY.**—This paper addresses long-standing uncertainty regarding the composition of Gould's type series for his name *Picus imperialis*, 1832, and the source from which they were derived. There is good evidence that he had at least six specimens, collected by Damiano Flores, to hand when he described the species, and these are identified with reasons. Further, a review is provided of information associated with all nine other early (c. pre-1860) specimens of which the author is aware, none of which can confidently be ascribed syntype status on current knowledge.

John Gould (1832) described, as *Picus imperialis*, a large and striking new species of woodpecker from, as he then thought, 'that little-explored district of California which borders the territory of Mexico'. Beyond the fact that he clearly had both male and female, he gave no indication as to the number of specimens he had before him and never elaborated on this in print subsequently. Likewise, although he discussed the fact that he had both sexes in correspondence, e.g. in a letter to Sir William Jardine on 19 December 1833 that included a sketch of the head of one (Sauer 1998, Snyder *et al.* 2009), there is no record of how many in total. However, Salvin & Godman (1888–97: 445) later stated unequivocally that Gould 'having obtained five or six skins of it, exhibited some of them at a meeting of the Zoological Society of London held 14th August, 1832'.

Salvin & Godman (1888–97: 445) further remarked that 'some years ago' [= 1876, according to the specimen labels] two of these skins, which from their manner of preparation they believed had originated from a mining engineer called Flores, had passed from Gould, who died in 1881, into their possession. In 1888, Salvin and Godman in turn passed these specimens to the British Museum (Natural History) (BMNH), where they remain as BMNH 1888.8.5.60 (female) and 1888.8.5.61 (male). Neither retains any label from Gould or earlier, but one Salvin & Godman label on each notes 'Type of the species as descr. by Gould. Obtained in exchange for a sp. of *Phasianus chrysolelas*. See B. Asia Part XXVIII. O.S.' These specimens have consistently been highlighted as syntypes of the species since, e.g. by Hargitt (1890), Warren (1966) and Knox & Walters (1994).

However, in the apparent absence of evidence to the contrary (see below), all of Gould's 'five or six' skins must in principle be considered syntypes. An understanding of their current whereabouts and status is therefore important. Snyder *et al.* (2009) provided an appendix containing a summary of all Imperial Woodpecker specimens of which they became aware during their research, although they overlooked a few early ones (see below). Of these, only a small number, held at BMNH and the National Museums Liverpool, possess clear potential type status through their connection with Gould. For clarity in what follows, information on all specimens mentioned here is summarised in Table 1.

Before turning to the specimens themselves, however, it is relevant to consider who Flores was, how certain it is that he collected the type specimens and how sound was restriction of the type locality of *Picus imperialis* to Bolaños, Jalisco, by Nelson (1898). Damiano Flores d'Arcais (G. Chiozzi *in litt.* May 2011), also known outside Italy as Damiano

TABLE 1  
Summary details for all Imperial Woodpecker *Campephilus imperialis* specimens discussed in the text.

Museum	Specimen reg. no.	Sex	Evidence for syntype status
Natural History Museum, Tring, UK <sup>1</sup>	1838.5.12.108 <sup>2</sup>	♂	Yes
"	1855.12.19.325	♀	Yes
"	1888.8.5.60	♀	Yes
"	1888.8.5.61	♂	Yes
"	unregistered	♂	No
National Museums Liverpool, UK	LM D3868	♂	Yes
"	LM D3868a	♀	Yes
Museum Heineanum Halberstadt, Germany	MHH 7735	♂	No
Staatliches Museum für Tierkunde, Dresden, Germany	2774 <sup>3</sup>	♂	No
Museo Civico di Storia Naturale, Milan, Italy	MSNM Av 31059	♂	No
"	MSNM Av 27993	♀	No
Academy of Natural Sciences, Philadelphia, USA	19612	♀	No
"	19613	♂	No
"	19614	♀	No
"	19615	♂	No

<sup>1</sup> Formerly British Museum (Natural History)

<sup>2</sup> Also registered as 1988.21.6

<sup>3</sup> Specimen no longer extant (see text)

Floresi (e.g. Gould 1861: text to pl. 141, Palmer 1928; but spelling *per* G. Chiozzi *in litt.* June 2011), was perhaps best known ornithologically as a collector of hummingbirds, but Gould (1856) does explicitly record that he collected *Picus imperialis*. According to Palmer (1928: 277), Floresí was ‘An Italian engineer in charge of a mine operated by an English company at Bolaños, Mexico, where, in 1845, he collected a hummingbird which was named in his honour’. This statement is concordant with the description by Gould (1861: text to pl. 139) of the new species *Selasphorus floresii* (since shown to be a hybrid) from a single specimen collected in Bolaños by Floresí and sent by the latter to George Loddiges in 1845.

However, elsewhere, Gould (1875: text to pl. 6) referred to two specimens of the trogon *Trogon neoxenus* that he received from Floresí sometime after 1836 as having been taken ‘probably in the neighbourhood of the Real del Monte mines, as it was in that district that most of his birds were procured’. Gould (1856: 63) also stressed Floresí’s connection with the Real del Monte mines, noting however that he ‘travelled himself, and kept collectors, who penetrated into the remotest parts of that country’. The Real del Monte mines (20°08’N, 98°40’W) are in Hidalgo, some considerable distance from those at Bolaños (21°50’N, 103°49’W) in Jalisco. Although Floresí is known to have visited both sites, it was at Bolaños that he was based for a number of years (Todd 1977). Given that the Real del Monte area is also outside the recorded range of the Imperial Woodpecker, a type locality for the species in the vicinity of Bolaños seems highly probable. Floresí, who Gould considered an ‘esteemed friend’ (Sauer 2006: 111), died prior to May 1853 (Gould 1861: text to pl. 261, first published in a part dated 1 May 1853 [Coues 1879]), ‘immediately on landing in Panama’ (Gould 1861: text to pl. 142). Further research into the life of Floresí, whose name is also linked to other important Mexican bird specimens, would seem important and has begun (G. Chiozzi & R. P. Prŷs-Jones unpubl.).

Snyder *et al.* (2009: 151) listed two specimens in the National Museums Liverpool, LM D3868 (male) and LM D3868a (female), as ‘received in 1851 from 13th Earl of Derby; J.

Gould syntypes?'. These were not mentioned by Wagstaffe (1978) in his list of avian types, although Wagstaffe did comment on the close relationship that Gould had with the Earl of Derby, whose collection, bequeathed to the city of Liverpool in 1851, forms the nucleus of the National Museums Liverpool bird collection. C. Fisher (*in litt.* December 2010 and March 2011) has confirmed that label information reveals that the Earl of Derby purchased the specimens directly from Gould. She further considers that this probably occurred during the 1830s, as they both have Lord Derby's original numbers on them, a system that he is thought to have changed during that decade.

Other specimens that seem likely on current evidence to have a claim to syntype status are held at BMNH. Knox & Walters (1994) reproduced the label data associated with each of them, but unfortunately also perpetrated several errors in interpretation. The oldest published list of Imperial Woodpecker specimens held at BMNH is that of Gray (1868), who listed three: a male from 'Mr. J. Gould's Collection'; another male lacking any collector data; and a female from 'the Zoological Society's Collection'. All lack date information and are recorded as from 'California', which until 1848 was still politically part of Mexico. This could suggest that Gould's Imperial Woodpecker specimens might have been shipped from California, though this must remain speculative.

Just over 20 years later, Hargitt (1890) corrected the locality data for these three specimens to Mexico and also noted that the data-less male and the 'Zoological Society' female were mounted for display (*cf.* Anon. 1892), whereas the 'Gould' male was a study skin. Although Knox & Walters (1994) referred to the two mounted specimens as 'Not found 1988', they remain on display at the museum's South Kensington site to the present day. It was formerly BMNH policy that specimens designated for display should first have their labels removed, and this is unfortunately true for these specimens. However, details for the 'Zoological Society' female can be determined from the relevant specimen register, which records BMNH 1855.12.19.325 as being a '*Picus imperialis*' purchased from the Zoological Society when it disbanded its museum in that year (Sharpe 1906, Wheeler 1997).

This Zoological Society of London (ZSL) specimen is almost certainly one of Gould's type series. Between 1828 and 1837, Gould was working for the ZSL, during which time at least some specimens received by him were deposited in the Society's museum, as he acknowledged in his letter of 19 December 1833 to Sir William Jardine, in which he wrote 'I received it [*Picus imperialis*] from California and have both sexes, at least they now form part of the collection of the Zoological Society' (Sauer 1998: 52). Furthermore, Malherbe (1861: 4) referred to a pair of Imperial Woodpeckers he had seen 'dans la collection de la Société zoologique de Londres'. However, Gould also maintained his own collection and dealt in specimens on his own behalf during the period of his employment, as well as playing a role in the disposal of the ZSL's 'duplicate' specimens (Wheeler 1997). Importantly also, in 1857 he purchased the bird skins still remaining at the ZSL after the dissolution of its museum (Wheeler 1997). In the absence of any useful surviving bird catalogues, distinguishing clearly between ZSL and Gould specimens is difficult.

Knox & Walters (1994) assigned a registration number, BMNH 1988.21.6, to the 'Gould' male skin recorded by Gray (1868) and Hargitt (1890) because its label lacked any existing number. However, it is almost certainly BMNH 1838.5.12.108, recorded in the relevant register as '*Picus imperialis* Gould. S. America [*sic*]. Purch. Gould'; interestingly, this specimen series (1838.5.12) from Gould contained numbers of Mexican birds, largely from Tamaulipas. It is also probably the specimen mentioned in a letter of 23 July 1838 from Edwin Prince, Gould's secretary (Lambourne 1987), to Gould, who was then en route to Australia. Prince noted that on 18 July he went 'To Brit. Mus. and made out fresh a/cs for the Birds brought in which was included a *Picus imperialis* omitted by you' (Sauer 1998:



264). As such, it may well have been the first example of the species to reach the BMNH (but see below).

That it took around 30 years from the date of the first description of a species as striking as *Picus imperialis* for ornithologists to suggest in print that it originated from Mexico strongly suggests that only a very few batches of specimens reached Europe in the interim. There is in fact no evidence suggesting that Gould received more than one consignment, and good evidence for only one further consignment before 1860: that containing the four specimens received in or slightly before 1836 by John Taylor, a British mining magnate with major business interests in Mexico (Todd 1977), passed on by him to Victor Masséna, Duc de Rivoli, and which subsequently arrived at the Academy of Natural Sciences, Philadelphia, in 1846 (Gill 1995), where they remain (Snyder *et al.* 2009; N. H. Rice *in litt.* March 2011). However, the origins of a few early specimens remain to be established: the data-less BMNH male (Gray 1868); a male that Cabanis (1863) noted as present in the Museum Heineanum, now the Museum Heineanum Halberstadt (MHH); a male that Malherbe (1861) recorded in the Dresden Museum; and a pair that Malherbe (1861) noted as being in his own collection.

Many bird specimens received by the BMNH in the mid-19th century were registered under their generic names only, and this includes an array of '*Picus*' acquired from both Gould and the ZSL. A potential candidate specimen for the data-less BMNH male is the ZSL male mentioned above, although the lack of a donor's name in Gray (1868) suggests purchase via a dealer may have been involved. However, the provenance of such data-less specimens will only be established with certainty through discovery of relevant archival information. The Museum Heineanum male, now registered as MHH 7735, was acquired from G. A. Frank, a natural history dealer based in Amsterdam (B. Nicolai *in litt.* January 2011); its provenance is given by Cabanis (1863: 101–102) as '(West-) Mexico', but no collecting or acquisition date is either given or can be deduced.

No Imperial Woodpecker specimen now exists in the Staatliches Museum für Tierkunde, Dresden, but an inventory of April 1881 recorded that an otherwise data-less specimen from 'California' was then present (T. Töpfer *in litt.* April 2011). Its number was 2774, and the catalogue also bears the indication 'A.S.', meaning 'Alte Sammlung' ('old collection'), an abbreviation used for those birds that date from the pre-1849 collection. The lack of yellow underlining to its collection number in the catalogue, which was added for those birds that survived World War II, suggests that the specimen was probably destroyed at this time, like much of the Dresden collection (Roselaar 2003).

The collection of Alfred Malherbe (1804–66) was subsequently acquired by Count Turati, whose own collection was incorporated into the Museo Civico di Storia Naturale, Milan (MSNM) in 1884 (Roselaar 2003). Although MSNM also suffered great damage and specimen loss in World War II, Malherbe's pair of Imperial Woodpeckers, acquired by Turati in 1860, survived and information concerning them was summarised by Violani *et al.* (1984), who also provided a photograph of the male. The male of the mounted pair is MSNM Av 31059 (ex coll. Turati no. 4385) and the female MSNM Av 27993 (ex coll. Turati no. 4386), but the only other information noted is their origin, 'California'. Any of these early specimens discussed in this and the preceding two paragraphs might conceivably have had a link to Gould, but evidence is lacking.

Overall, six specimens have strong claims to be considered syntypes of the name *Picus imperialis*: BMNH 1838.5.12.108 (male—also registered as 1988.21.6), 1855.12.19.325 (female), 1888.8.5.60 (female) and 1888.8.5.61 (male); and LM D3868 (male) and LM D3868a (female). All of these appear to have been part of Gould's original series and no information is available to demonstrate that his description was based only on a subset of them.

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Address: Bird Group, Natural History Museum, Akeman Street, Tring, Herts. HP23 6AP, UK, e-mail: r.prys-jones@nhm.ac.uk